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AGRICULTURE

No. 1301

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CONTENTS

AGRO-ECONOMICS AND ORGANIZATION

Development in Ukraine During New Five-Year Plan
(V. Makarenko; EKONOMIKA SOVETSKOY UKRAINY, Jun 81) 1

Capital Investment Use With Ukrainian Livestock
(V. Rabshtyna, et al.; SEL'SKAYA ZHIZN', 19 Aug 81) 14

Additional Measures for Improving Private Plot Operations Described
(A. Iyevlev Interview; KHOZYAYSTVO I PRAVO, Jun 81) 17

New Procurement Prices for Belorussia Listed
(A. M. Pshenko; SEL'SKOYE KHOZYAYSTVO BELORUSII, Jul 81) 25

Highly Efficient Innovative Farming Units
(I. Puzyrev; SEL'SKAYA ZHIZN', 15 Aug 81) 28

TILLING AND CROPPING TECHNOLOGY

Further Development of Rye Crop in Northern RSFSR Urged
(N. Gryzlov, et al.; IZVESTIYA, 5 Aug 81) 31

Further Development of Rye Crop in Northern European RSFSR
(K. Shelyganova; SOVETSKAYA ROSSIYA, 25 Jul 81) 36

Expansion of Interval Feed Crop Sowing Recommended
(A. Khalturing, Yu. Novoselov; SEL'SKAYA ZHIZN' 12 Jul 81) 39

AGRO-ECONOMICS AND ORGANIZATION

DEVELOPMENT IN UKRAINE DURING NEW FIVE-YEAR PLAN

Kiev EKONOMIKA SOVETSKOY UKRIANY in Russian No 6, Jun 81 pp 12-20

[Article by V. Makarenko, Candidate of Economic Sciences and department head at Gosplan for the UkSSR: "The Republic's Agriculture During the New Five-Year Plan"]

[Text] The 26th CPSU Congress recognized the need for developing a special food program in our country, one which would ensure that the population would be provided with a continuous supply of food products as rapidly as possible.

The foundation for this food program is further improvements in agriculture. During the last years of the Tenth Five-Year Plan, a tremendous amount of work was carried out in the UkSSR in connection with converting this branch over to a modern industrial basis. This made it possible during the Tenth Five-Year Plan to increase gross output in the public sector by 10 billion rubles, or by 11 percent. The average annual production of grain reached 43.2 million tons and thus reflected an increase of 3.2 million tons above the figure for the Ninth Five-Year Plan and in the case of sugar beets -- 53.6 million tons, or an increase of 7.6 million tons. The state procurements of meat increased by 5 percent, milk -- by 10 percent, eggs -- by a factor of 1.4 and fruit and vegetable products -- by a factor of 1.2. Increases also took place in the production and procurements of other agricultural products.

During the years of the Tenth Five-Year Plan, 582,000 hectares of irrigated land were placed in operation and drainage work was carried out on an area of 669,000 hectares. Today there are more than 2 million hectares of irrigated land and 2.5 million hectares of drained land in the republic. The UkSSR has become one of the largest regions of reclamation farming in the country. These reclaimed lands represent a great reserve for obtaining guaranteed yields for our agricultural crops and for increasing the production of agricultural products.

A considerable increase has taken place in the pool of tractors, trucks, grain harvesting and beet harvesting combines and other items of agricultural equipment. At the beginning of 1981, the power-worker ratio per worker engaged in agricultural production was 18.6 horsepower compared to only 11.6 horsepower in 1975.

By the end of the Tenth Five-Year Plan, the fixed capital of an agricultural nature of kolkhozes and state farms throughout the republic had reached 41.2 billion rubles, compared to only 28.7 billion rubles at the end of the Ninth Five-Year Plan, that is, it had increased by a factor of 1.4.

However, the production level achieved for the most important types of agricultural products is still inadequate. As a result of the improvements in the welfare of workers, the demand for certain food products, particularly meat and milk, is increasing at a more rapid rate than their production.

In this regard, our party, by consistently following the program outlined during the March (1965) and July (1978) Plenums of the CC CPSU, is placing special emphasis on comprehensive intensification and raising the efficiency of agricultural production.

In the decisions handed down during the 26th CPSU Congress and in the "Basic Directions for the Economic and Social Development of the USSR During the 1981-1985 Period and for the Period Up To 1990," a great amount of attention has been given to developing the agroindustrial complex and carrying out the food program. Here the intent is to ensure, during the next few years, proportional and balanced development for agriculture and the industrial branches which service it and also for the procurement, storage, transporting and processing of agricultural products. A leading element of the agroindustrial complex is agriculture; it has been assigned the task of ensuring the dynamic development and raising the efficiency of all of its branches and increasing the production and improving the quality of the products.

The UkSSR has been assigned extremely important tasks in connection with further increasing the production of agricultural products during the Eleventh Five-Year Plan.

Compared to the Tenth Five-Year Plan, the average annual gross output for all categories of farms will increase by 12-14 percent and for the public sector -- by 16-17 percent, with labor productivity increasing by 24 percent.

The plans for 1985 call for gross agricultural output to be raised to 33.5 billion rubles, compared to 26.6 billion rubles in 1980, an increase of more than 25 percent.

In view of the fact that the opportunities for further expanding the amount of arable-capable lands have for all practical purposes been exhausted in the UkSSR, the plans call for further growth in the production of agricultural products through more efficient use of the land and in this manner obtaining a maximum amount of product per unit of land area.

The plans call for the production of the principal farming products to be raised to the volumes shown in Table 1.

During the Eleventh Five-Year Plan, a leading role in farming will be played mainly by development of the grain economy -- the foundation for all agricultural production. In the structure of the areas under crops, the grain crops will occupy 17 million hectares, or almost one half of the republic's arable land. In view of the fact that the requirements for bread grain in our country are now being satisfied completely, emphasis is presently being placed upon the cultivation of forage grain crops so as to be able to supply animal husbandry more completely with full-value concentrated feeds.

TABLE 1
(thousands of tons)

Product	1976-1980	1980	1981-1985 (Plan)	1985 (Plan)	1981-1985 in % of 1976-1980	1985 in % of 1980
Grain	43190	38296	51000	52000	118.1	135.8
Sugar beets	53563	47201	56598	58500	105.7	123.9
Sunflowers	2425	2272	2893	3000	119.3	132.0
Flax fibre	124.5	97.4	140	145	112	143.9
Potatoes	20539	13120	21510	21530	104.7	164.1
Vegetables	7482	6701	7856	8000	105.0	119.4
Fruits and berries	3043	2210	3700	3850	121 6	174.2
Grapes	825	881	1084	1250	131.4	141.9

During the years of the five-year plan, the gross yields of grain must be raised on the average to 51-52 million tons, or an increase of 8-9 million tons above the figure for the Tenth Five-Year Plan. The increase in grain production in 1985 to 52 million tons, compared to the average annual level of 43.2 million tons achieved during the 1976-1980 period, or 8.8 million tons more, will be achieved by implementing the following important measures:

-- raising the grain crop harvesting area in 1985 to 17 million hectares, or 0.5 million more hectares than the average annual figure for the 1976-1980 period. This will make it possible to increase grain production by 1.3 million tons;

-- increase the mineral fertilizer applications in behalf of grain crops from 6 million tons (3.8 quintals per hectare) to 8.5 million tons (5.1 quintals per hectare) and utilize the fertilizers more efficiently. This will guarantee an increase of up to 2.5 million tons of grain;

-- apply up to 114 million tons of organic fertilizers, or 30 million more tons than the average annual level for the 1976-1980 period. This will ensure an increase in the gross yield of grain of 0.9 million tons;

-- expanding the grain crop sowings on irrigated and drained lands, implementing improved agricultural practices, introducing into operations more productive varieties and hybrids and new and progressive cultivation technologies, protecting plants against pests, diseases and weeds, shortening the work schedules and improving the quality of the work and implementing complex mechanization. This will make it possible to increase grain production by 4.1 million tons.

A great reserve for increasing grain production is that of expanding the sowing areas for corn and raising its cropping power. By 1985, the plans call for the gross yield of corn grain to be raised to 8.4 million tons, compared to 4.4 million tons on the average for the years of the Tenth Five-Year Plan.

Just as during the past five-year period, so also during the new five-year plan, a great amount of attention will be given to the production of new and highly productive grain crop varieties and hybrids. During the Tenth Five-Year Plan, the republic's scientific-research institutes created promising grain crop varieties and hybrids having a potential cropping power for winter wheat of 80-90 quintals per hectare, winter rye -- 50-60 quintals per hectare, spring barley -- 60-70 quintals per hectare and corn for irrigation conditions -- 120-130 quintals per hectare. An expansion will take place in the sowings of the best regionalized varieties of winter wheat -- Akhtyrchanka, Mironovskaya 25, Odesskaya Polukarlikovaya, Dnepropetrovskaya 846, Kiyanka and Khar'kovskaya 81; winter rye -- Niva and Polesskaya Tetra; spring wheat -- Donetskiy 8, Nosovskiy 9 and Vinitskiy 7; corn -- hybrids of Bukovinskiy IIT, Dneprovskiy 320 AMV and Odesskiy 80 MV; peas -- Neosypayushchiysya 1 and Uladovskiy 10; soybeans -- Zarnitsa and Kirovogradskaya 5; alfalfa -- Raduga, Khersonskaya 9 and Nadezhda.

With regard to increasing still further the production of grain, great importance is attached to the efficient utilization of reclaimed lands. And great reserves are available here for this. Thus, in the southern oblasts of the republic where the principal areas of irrigated land are located and where the weather conditions during 1980 were extremely unfavorable for grain crops, the yield obtained was considerably higher than that obtained from non-irrigated land, even though the planned level still was not achieved (see Table 2)

TABLE 2

Cropping Power of Grain Crops During 1980 On Irrigated Lands
(quintals per hectare)

Oblast	Actual	Planned	Actual for Non-Irrigated Lands	Actual for Irrigation Conditions Lower Than Planned
Dnepropetrovskaya	40	44.5	26.2	4.5
Zaporozhskaya	34.8	43	26.3	8.2
Krymskaya	46.8	49	24.9	2.2
Nikolayevskaya	29.3	46	21.9	16.7
Odesskaya	34.8	46.5	22.2	11.7
Khersonskaya	40.1	45.5	23.8	5.4
For the UkSSR	37.3	45	22.6	7.7

Based upon the data cited, it would appear that the cropping power achieved for irrigated lands exceeds to a considerable degree that for non-irrigated lands. Thus, in Dnepropetrovskaya Oblast it was higher by 13.8 quintals per hectare, Zaporozhskaya -- by 8.5, Krymskaya -- by 21.9, Nikolayevskaya -- by 7.4, Odesskaya -- by 12.6 and Khersonskaya Oblast -- by 16.3 quintals per hectare. Mention should be made of the positive experience accumulated in Krymskaya Oblast in the cultivation of corn on irrigated lands. On the average and against a planned cropping power for corn of 56.5 quintals per hectare, an actual cropping power of 63.9 quintals per hectare was obtained; the average cropping power for the republic was 46.3 quintals per hectare.

During the new five-year plan, special attention will be given to those problems concerned with increasing the production of groat crops -- buckwheat, rice and millet. This will make it possible to satisfy more fully the population's requirements for groat crops. The sowing areas for pulse crops will be expanded considerably and their gross yields increased. These crops represent the principal source for increasing the production of feed protein, needed for satisfying the requirements of animal husbandry.

A second and equally important task is that of increasing the production of sugar beets, the average annual yields of which must be raised to 56-57 million tons and the production of sugar in 1985 -- to 6.6-6.8 million tons, compared to only 4 million tons in 1980.

The plans call for such an increase in the gross yield and for improvements in the cropping power and sugar content of sugar beets and also in their technological qualities to be achieved through more efficient use of mineral fertilizers in behalf of this crop, with the fertilizers being applied according to scientifically sound norms, through the liming of acid soils and gypsuming of saline soils in beet crop rotation plans and through the introduction of a progressive production technology and more productive harvesting equipment. Special attention will be given to those problems concerned with concentrating sugar beet production in the raw material zones of sugar plants, intensifying the specialization of beet growing farms and also to distributing the sowings in regions considered more favorable for the cultivation of this crop.

The basic direction to be followed in the development of flax production during the 1981-1985 period will be that of increasing the production of spinning flax and improving the quality of the fibre based upon an improved culture of farming, an increase in the use of fertilizers, the introduction of new and highly productive varieties and also all-round mechanization in the cultivation, harvesting and primary processing of this crop. The plans call for the production of flax fibre to be increased to 145,000 tons in 1985, an increase of 20,000 tons compared to the level achieved during the Tenth Five-Year Plan.

In 1985 the production of sunflower seed will be raised to 3 million tons, or 23.7 percent higher than the average annual level for such production during the 1976-1980 period. Such an increase will be achieved by applying mineral fertilizers in behalf of this crop at the rate of 5 quintals per hectare of planting, compared to 3 quintals during the 1976-1980 period, by further expanding the areas on which sunflowers are cultivated using a progressive technology, by introducing into operations new, productive and high oil-content varieties and hybrids, by improving seed production, by strictly observing the system of annual strain renovation and by expanding the sowings on irrigated lands. During the past few years the sowings of sunflowers were severely damaged by diseases in the form of grey and storage rot and this lowered their cropping power considerably. The plans for the Eleventh Five-Year Plan call for the implementation of a complex of agrochemical measures against these diseases and the introduction into production operations of varieties which are resistant to them. The Odessa Scientific Research Institute has created a new variety of sunflower called Rassvet, which will be introduced into operations at kolkhozes and sovkhozes in the Ukraine.

A great amount of attention will be given to the production of potatoes and vegetables. By 1985 the plans call for potato production to be raised to 21.5

million tons and vegetables to 8 million tons. This will make it possible to satisfy the population's requirements for these products. Additional farm specialization will be carried out, vegetable production will be conducted in more favorable zones in the vicinity of large cities and industrial centers and industrial technologies for the production of vegetables will also be introduced on an extensive scale, thus making it possible to raise the efficiency of this branch considerably. The plans call for the implementation of a number of measures aimed at strengthening the logistical base for potato and vegetable production, particularly in connection with satisfying the requirements of the vegetable and potato storage facilities for mechanized loading and unloading operations and automatic control over the storage regime.

Vegetable production on sheltered ground must be increased to 260,000 tons by the end of the five-year plan. This will make it possible to raise their per capita consumption to 5.1 kilograms.

A principal trend in the development of horticulture and viniculture during the Eleventh Five-Year Plan will continue to be that of converting these branches over to an industrial basis, raising the overall level of cultivation through the extensive introduction of new and progressive technologies for the production of fruit and grapes and equipping the specialized farms with new machines and implements for tending the plantings, harvesting the crops and for the commercial processing, storage, loading and transporting of the products. The average annual production of fruit and berries during the 1981-1985 period is to be raised to 3.7 million tons, or 21.6 percent more than the average gross yield for the years of the Tenth Five-Year Plan; grapes respectively to 1.1 million tons, or 31.4 percent more.

The most important problem associated with further growth in the production of agricultural products is that of raising the fertility of the soil. Specific measures have been developed in the republic for solving this problem and they must ensure:

-- the application, by the end of the five-year plan, of no less than 272 million tons of organic fertilizers, compared to 222 million tons in 1980;

-- the liming of soils on an area of 1.4 million hectares and gypsuming on an area of 209,000 hectares;

-- the creation of soil-protective forest strips on an area of 19,300 hectares;

-- the strengthening and afforestation of ravines, gullies, sandy areas and other unsuitable lands on an area of 65,900 hectares;

-- the terracing of steep slopes on an area of 2,000 hectares;

-- the construction of anti-erosion hydraulic engineering and anti-flooding installations valued at 145.1 million rubles;

-- the introduction in 1985 of non-mouldboard and surface tilling of the soil on an area of approximately 8.5 million hectares.

In the decisions handed down during the 26th CPSU Congress, special emphasis was placed upon the task of radically improving feed production and satisfying the feed requirements of public animal husbandry and also those for livestock and poultry privately owned by citizens. The quality of the feed must be improved and efforts must be concentrated on solving the feed protein problem, mainly through an expansion of sowings and a considerable increase in the production of peas, alfalfa, clover, lupine, soybeans, rape and other high protein crops.

The plans for the new five-year plan call for efficient measures to be implemented throughout the republic aimed at increasing the production and procurements of feed, raising its quality and improving its utilization.

The cropping power for silage crops must be raised by almost 20 percent and that for perennial grasses by 10-12 percent by raising the culture of farming, increasing the fertilizer applications, expanding the sowings on irrigated and drained lands and improving the agricultural practices employed in cultivation of the crops. A great amount of attention will be given to increasing the production of hay from sowings of perennial grasses and natural haying lands. Improvements will be carried out in the structure of forage crop plantings. The plans call for a considerable expansion in the areas devoted to perennial grasses. By 1985, they will be raised to 4.7 million hectares, compared to only 2.1 million hectares on the average during the years of the Tenth Five-Year Plan and constitute 50 percent of the feed group. The areas devoted to pulse crops and soybeans are being expanded. Special attention is being given to raising the productivity of the natural feed lands by expanding them and creating irrigated haying and pasture lands.

The plans call for a further improvement in feed procurements using progressive technologies and improved conditions for their storage through the accelerated construction of standard and substantial feed storehouses. By 1985, the production of feed at kolkhozes and state farms will increase to 90 million tons, or by 16 percent above the figure for 1980.

Mixed feed will occupy a large proportion of the feed balance. In 1985, the production of such feed will reach 25.1 million tons, including 9.8 million tons of mixed feed and 2.55 million tons of protein-vitamin additives at state mixed feed enterprises, on the basis of which the interfarm mixed feed plants will produce 15.3 million tons of mixed feed.

At the present time, the republic's Gosplan, jointly with ministries and scientific-research institutes, is developing an all-round special purpose program known as "Feed Protein." Upon implementation of the measures called for, the requirements of animal husbandry for coarse, succulent and green feeds during the 1981-1985 period will be satisfied completely and those for feed protein by 96-97 percent.

In the decisions handed down during the 26th CPSU Congress, it is emphasized that animal husbandry is an important front for work to be carried out in the rural areas. The task is one of achieving further growth in the production of products in this branch.

In the Basic Directions for the Economic and Social Development of the USSR During the 1981-1985 Period and for the Period Up To 1990, our republic has been assigned serious tasks in connection with increasing the production of animal husbandry products. During the years of the Eleventh Five-Year Plan, the average annual production of meat in dressed weight must be raised to 3.9-4.1 million tons, or an increase of 12.6-18.3 percent compared to the Tenth Five-Year Plan, and for milk the figures are respectively 22.5-23 million tons or by 10.3-10.6 percent and for eggs -- to 14.8 billion units or by 9.4 percent. During the new five-year plan, the UkSSR will provide 23.4 percent of the public production of meat, 23 percent of the milk and more than 20 percent of the eggs.

In increasing the production of animal husbandry products, decisive importance is attached to raising the productivity of the livestock and poultry. The plans call for increased productivity to provide 88 percent of the increase in meat production, 84 percent of the increase in milk, 25 percent of the increase in eggs and the entire increase in wool.

The branches specializing in meat production will be developed at an accelerated tempo. Compared to 1980, beef production during 1985 will increase by 10.4 percent and amount to 2.83 million tons. Beef presently occupies a leading place in the republic's meat balance. It constitutes 44-45 percent of overall meat production.

Pork production in 1985, at all categories of farms, will increase to 2.24 million tons, or 30.2 percent more than in 1980. Its proportion of overall meat production, in dressed weight, will be 41 percent.

In 1985 the production of poultry meat will amount to 704,000 tons, compared to 644,000 tons in 1980, an increase of 9.3 percent. The plans call for meat production to increase as a result of further development of poultry meat production and also through the sale of replacement poultry of egg laying strains. In addition to the accelerated development of broiler poultry production, an expansion will take place in the raising of waterfowl and turkeys for meat purposes.

The plans call for a considerable amount of pork and poultry and rabbit meat to be produced on the private plots of the population.

During the past few years, the party and government have adopted a number of important decrees aimed at further increasing the production of agricultural products on the private plots of citizens and also expanding the subsidiary farms of industrial enterprises and organizations. Appropriate decrees have also been adopted in our republic calling for considerable assistance to be provided to kolkhoz members, sovkhoz workers and office workers in developing their private plots. For example, the plans for 1981 call for 172 million head of young poultry and 4.44 million head of young swine to be sold to the population in our republic and for 4.7 million tons of coarse feed and 3.1 million tons of succulent feed to be made available; assistance will be furnished in the form of mixed feed from state resources and also by making grazing land available for the livestock.

The food program is being developed both throughout the country as a whole and also in the republics and oblasts. A most important part of this program is the procurement of agricultural products. Based upon control figures, during the Eleventh Five-Year Plan the procurements of the principal types of agricultural products in the UkSSR must be raised to the volumes shown in Table 3.

TABLE 3
(thousands of tons)

Product	1976-1980	1981-1985 (plan)	1981-1985 in % of 1976-1980	1980	1985 (plan)	1985 in % of 1980
Grain	13845	19250	139.0	11110	20000	180.0
Sugar beets	45967	52200	113.6	37562	54000	143.8
Sunflowers	1810	2304	127.3	1661	2400	144.5
Flax fibre	121.8	137.6	113.0	97	143	147.4
Potatoes	2743	3322	121.1	1165	3450	296.1
Vegetables	4890	5100	104.3	4600	5200	113.0
Fruit and berries	1434	1894	132.1	1010	2100	207.9
Grapes	635.5	885	139.3	685	1050	153.3
Livestock and poultry (in live weight)	3523	4076	115.7	3475	4430	127.5
Milk	13631	14601	107.1	13115	15350	117.0
Eggs (millions of units)	7718	8970	116.2	8518	9600	111.5
Wool	30.2	31.4	104.0	29.7	32.0	107.6

During the Eleventh Five-Year Plan, grain procurements must be increased by 39 percent, sunflowers -- by 27.3 percent, potatoes -- by 21.1 percent, fruit and berries -- by 32.1 percent, grapes -- by 39.3 percent and meat in live weight -- by almost 16 percent.

Prior to 1980, the overall procurement volumes for agricultural products were subdivided into firm plans and above-plan procurements (by animal husbandry products -- additional tasks).

In November 1980, the CC CPSU and the USSR Council of Ministers adopted the decree entitled "Improvements in Planning and in the Economic Stimulation of the Production and Procurements of Agricultural Products," which calls for the tasks for selling farming and animal husbandry products to the state to be kept in balance with the logistical and financial resources allocated. This decree stipulated that the five-year plans (with a breakdown by years) should provide the kolkhozes, sovkhozes and other agricultural enterprises and associations only with tasks for selling agricultural products to the state in a natural expression, with no breakdown for firm plans, above-plan procurements or additional tasks.

A new system of economic incentives was established for increasing the production and procurements of agricultural products. During the Eleventh Five-Year Plan, the kolkhozes, sovkhozes and other agricultural enterprises and associations will be paid a bonus amounting to 50 percent of the procurement prices for the sale to the state, over and above the average level achieved during the Tenth Five-Year Plan, of grain, sunflowers, sugar beets, soybeans, flax and hemp products, potatoes, tobacco, common hops, essential oil crops, poppies, livestock and poultry, milk, wool, eggs and karakul hides.

During the next few years, the plans call for measures to be implemented aimed at improving considerably the quality of the agricultural products. This will be achieved by improving the fattening regimes for livestock and poultry, by achieving improved storage for the products and also by developing direct contacts between the kolkhozes, sovkhozes and stores, wholesale bases, meat combines and plants for the processing of vegetables, fruit and other products.

In 1979, the Council of Ministers for the UkSSR adopted the decree entitled "Additional Measures for Further Improving the Quality of Agricultural Products and the Introduction of an All-Round System for Controlling the Quality of the Work and Output." In particular, this decree calls for 365,000 tons of strong wheat and more than 2 million tons of valuable wheat to be procured at kolkhozes and sovkhozes throughout the republic in 1981 and in 1985 -- 800,000 and 3 million tons respectively. The plans call for sugar production to be raised to 37.9 quintals per hectare, compared to only 22.2 quintals in 1980. Considerable attention is being given to further raising the quality of animal husbandry products. The plans call for the average live weight of large-horned cattle for procurement purposes to be raised to 412 kilograms in 1985, compared to 350 kilograms in 1980 and in the case of swine -- 114 and 101 kilograms respectively. Moreover, 84 percent of the large-horned cattle sold must be in a high state of nourishment, compared to only 65 percent in 1980. By 1985, the sale of 1st quality milk must reach 91 percent, compared to 89 percent in 1980.

During the Eleventh Five-Year Plan, the plans call for further strengthening and development of the logistical base for agriculture throughout the republic.

In conformity with the USSR Gosplan limits, the capital investments in agriculture in the republic are established in the amount of 25.8 billion rubles, including state capital investments -- 12.5 billion rubles and the resources of kolkhozes and interkolkhoz organizations -- 13.3 billion rubles. Special attention will be given to sharply increasing the construction volumes for projects associated with feed production, feed preparation and the mechanization of all processes in feed production, to the introduction of progressive technologies for procuring feed and preparing it for feeding to the livestock and to converting this branch over to an industrial basis. Approximately 2.88 billion rubles will be allocated for these measures during the Eleventh Five-Year Plan, or 1.5 times more than the amount for the Tenth Five-Year Plan.

The following facilities will be placed in operation at kolkhozes and sovkhozes throughout the republic: silage and haylage installations for 26,700 cubic meters of one-time storage space, feed preparation shops for the production of 128,000 tons daily, mixed feed plants and shops for the production of 5,200 tons of mixed feed daily and also a large number of storehouses for root crops, hay, grass meal and briquetted and granulated feed.

The construction of facilities for the storage and processing of agricultural products will be carried out at greater rates of speed in the interest of reducing losses considerably. The plans call for 880 million rubles to be allocated for this purpose, compared to just 700 million rubles during the Tenth Five-Year Plan. Grain storage facilities providing an overall capacity of approximately 3 million tons must be built and introduced into operations at kolkhozes and sovkhozes; this will fully satisfy the requirements for such facilities. In addition, vegetable and potato storehouses for 1.5 million tons and fruit storehouses for 60,000 tons must also be placed in operation.

During the Eleventh Five-Year Plan, capital investments for the use of chemical processes in agriculture will be increased to 900 million rubles, compared to 406 million rubles during the Tenth Five-Year Plan, an increase of 2.2 times. Of this amount, 750 million rubles, or 2.6 times more than during the previous five-year plan, will be used for the construction of rail-served storehouses for mineral fertilizers and agrochemical complexes and for developing the logistical base for the Ukrsel'khozkhimiya Association, or 2.6 times more than during the previous five-year plan. This will make it possible to build and place in operation storehouses for 1.78 million tons of mineral fertilizers.

Land reclamation operations will be carried out at stable rates. In the process, the principal direction to be followed will be that of improving the utilization of the reclaimed lands and eliminating the lag in their development. The construction of new reclamation systems will be carried out mainly in a complex with measures aimed at achieving their agricultural development. Approximately 543,000 hectares of irrigated land and 660,000 hectares of drained land will be placed in operation.

Work will continue during the Eleventh Five-Year Plan on the construction of the Danube and Kakhovka irrigation systems; the plans call for construction to commence on an irrigation system in the Azov Sea region, for the completion of construction work on the second phase of the Severo-Krymskiy Canal and for construction to commence on the third phase.

When determining the directions to be followed for using the capital investments allocated for the development of the logistical base for agriculture during the Eleventh Five-Year Plan, a great amount of attention will be given to a proper combination of new construction with the modernization and technical re-equipping of production installations already in existence at kolkhozes and sovkhozes, particularly animal husbandry farms.

Considerable importance is attached to those problems concerned with improving the housing and cultural-domestic conditions of rural workers. The plans call for an overall volume of 3.33 billion rubles worth of capital investments for implementing social development measures, or 830 million more rubles than during the Tenth Five-Year Plan. This will promote the retention of personnel in the rural areas.

The technical re-equipping of agriculture, based upon the use of new equipment, will be continued during the Eleventh Five-Year Plan. The plans call for the completion of all-round mechanization for the production of sugar beets and spinning flax, for the application of organic and mineral fertilizers to the soil, for the use of plant protective agents and for a considerable increase in the level of mechanization for the production of vegetables, potatoes, fruit, feed and animal husbandry products. In 1985, the flow-line harvesting of grain crops is to be carried out on an area of 8.6 million hectares, or 56 percent of the entire sown area; the flow-line and flow-line-transshipment harvesting of sugar beets -- on 1.7 million hectares or 95 percent of the area and the flow-line harvesting of potatoes -- on 320,000 hectares or 59 percent of the entire sown area.

The plans call for the republic's agriculture to be supplied during the Eleventh Five-Year Plan with 285,000 tractors, or 5 percent more than during the previous five-year plan, trucks -- 242,000 or 9 percent and grain harvesting combines --

68,000 or 8 percent more. Considerable increases will take place in the deliveries of mechanization equipment for feed production and animal husbandry. In the process, the power-worker ratio at kolkhozes and sovkhozes will increase to 28.6 horsepower per worker by 1985, an increase of 1.5 times.

Extensive use will be made of electric power in all branches of agriculture and in the everyday life of rural residents. Electric power consumption for production purposes will be raised to 20.8 billion kilowatt-hours in 1985, compared to only 13.7 billion kilowatt-hours in 1980, an increase of more than 1.5 times.

Considerable work is being carried out in the republic in connection with improving zonal specialization; large-scale zones have been created for the commodity production of grain, rice, sugar beets, spinning flax, potatoes, grapes and common hops. Zones for the intensive production of vegetables, milk and eggs have been created around large cities and industrial centers throughout the republic. Individual agricultural crops are being concentrated on farms having very favorable conditions for their cultivation and individual branches are being located in certain regions on a scientifically sound basis, with the natural-climatic conditions and national economic requirements being taken into account.

An expansion has taken place in the network of specialized farms for the growing of seed, grain and technical crops, perennial grasses, soybeans, potatoes and vegetables. Specialization and concentration based upon interfarm cooperation is taking place at an intensive rate in animal husbandry. In 1980, the specialized farms produced 29 percent of the beef, 48 percent of the pork, 66 percent of the poultry meat, 83 percent of the eggs, 45 percent of the wool and 53 percent of the milk.

Further intensification of specialization and concentration in agricultural production will take place during the 1981-1985 period. In the interest of realizing considerable improvements in supplying the population with vegetables, melon crops, fruit, berries, grapes, potatoes and the products obtained from their processing, through increased production, the elimination of losses and the organization of efficient and coordinated operations among all enterprises, institutes and organizations engaged in the cultivation, procurement, processing, storage, transporting and sale of these products, a Ministry of Fruit and Vegetable Economy has been created in the republic. This ministry includes 517 specialized sovkhozes, more than 60 canning plants and combines and more than 1,800 specialized vegetable stores. The specialized farms of Glavplodvinprom for the UkSSR accounted for 35 percent of the fruit and berries and 49 percent of the grapes produced in the republic's public sector. Six interfarm enterprises consisting of 2,500 hectares of intensive orchards are being created. In all, the plans call for the creation in the republic of 22 orchard complexes having 25,000 hectares of perennial plantings.

By the end of the five-year plan, the production of common hops and seed for vegetable crops and perennial grasses will be concentrated mainly at specialized kolkhozes and farms of the Ukrkhmel' and Ukrsortsemovoshch Associations.

In the production of animal husbandry products and compared to the overall volume for the republic, the amount of meat to be provided by specialized farms, interfarm enterprises and associations in 1985 will be raised to 53.6 percent, milk -- to 57.4 percent, eggs -- to 83.6 percent and wool -- to 50 percent.

An acceleration in scientific-technical progress in all branches of agriculture, the further development of science and engineering and improvements in the technology employed for the production processes will be of decisive importance with regard to realizing further increases in agricultural production. Today there is not one branch of agriculture that can develop successfully in the absence of a scientific foundation or without employing the results of scientific studies. Fundamental studies of the prospects for agricultural development in the republic and a scientific forecast of its possible trends are making it possible to determine correctly the tasks of both the agricultural science on the whole and the agricultural economy. In addition, they will promote the successful fulfillment of the decisions handed down during the 26th CPSU Congress with regard to increasing the production of agricultural products and satisfying more completely the nation's requirements for these products.

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7026
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CAPITAL INVESTMENT USE WITH UKRAINIAN LIVESTOCK

Moscow SEL'SKAYA ZHIZN' in Russian 19 Aug 81 p 2

[Article by V. Rabshtyna, V. Sotnikov, and A. Shugalka, candidates in economic sciences: "When Efforts are Uncoordinated"]

[Text] Contemporary experience in the development of animal husbandry testifies to the effectiveness of industrial methods of conducting production. Thus, the industrialization of dairy cattle raising on the "Kutuzovka" experimental farm in Khar'kovskaya Oblast, and on the sovkhoz imeni Lenin in Moskovskaya Oblast, the "Tartu" sovkhoz in the Estonian SSR, and the "Krasnyy" sovkhoz in Odesskaya Oblast has made it possible to reduce labor expenditures per quintal of milk by 2-3 man-hours. This is 4-5 times less than the average on the country's kolkhozes and sovkhozes. On these farms where the cost of a quintal of milk does not exceed 16 rubles a progressive technology has been introduced, a solid feed base has been created, and the productivity of the livestock has increased. In a word, an overall approach to advancing the branch has been achieved.

Examples of this kind are becoming increasingly numerous. During the 11th Five-Year Plan a great deal will have to be done to industrialize labor in the livestock sections. The accomplishment of this task requires large capital investments and an increase in the return on them.

It is also being made difficult by the existence of serious economic organizational shortcomings in the use of capital investments. They include above all the numerousness and insufficient production capacities of the construction organizations which perform construction and installation work in animal husbandry. For example, in Nikolayevskaya Oblast these functions are performed on the kolkhozes by ten organizations. In Novoodesskiy Rayon alone construction is carried out by the Novoodesskiy Inter-Kolkhoz Construction Organization, the mobile mechanized column-5, the mobile mecnanized column-257, an inter-farm road construction administration, and the "Nikolayevsel'stroy" and "Nikolayevvodstroy" trusts. In addition, almost one-third of the construction is performed by the farms themselves.

In our opinion, it makes real sense for the agricultural agencies of the oblast to concentrate the efforts of each construction and installation organization on the projects of one or two rayons. After all, experience shows that the numerousness of contractors and an insufficient coordination of their work leads to dragging out the commissioning dates of production facilities. Thus, in the same Novoodesskiy

Rayon the annual program for commissioning fixed capital was fulfilled during the last five-year plan by 58-93 percent. And, could it have been otherwise, if the appropriations were widely dispersed? With an overall annual amount of contracting work in animal husbandry which came to 940,000 rubles, on six farms it did not exceed 35,000 rubles.

Five large facilities are being built in the rayon: on the kolkhoz imeni Kalinin--sheep breeding sections for 5,000 to 6,000 ewes (estimated cost--2.3 million rubles); on the kolkhoz imeni Frunze--a dairy farm for 1,200 cows (estimated cost--2.5 million rubles); on the "Leninskaya Iskra"--a cattle fattening section for 3,200 head (estimated cost--more than 2 million rubles); and on the "Ukraina"--a dairy farm for 8,000 cows (estimated cost--1.8 million rubles). However, funds are not concentrated so as to achieve the most rapid completion of the construction. As a result of this, the construction of the facilities has been going on for five and more years. The period from designing to commissioning lasts 10 to 12 years. And this means that by the time that the facilities are put to work the technology and machinery and equipment are obsolete and the expected economic effect is not obtained.

Moreover, contractors try to commission fixed productive facilities by indefinitely postponing the construction of auxiliary facilities--feed shops, boiler rooms, utilities and services, and so forth. For example, on the above-named "Leninskaya Iskra" kolkhoz in Novoodesskiy Rayon cattle fattening housing was commissioned as early as 1976-1977. But to this day the manure depository, the boiler room, and the heating system are being built and the utilities and services have not been constructed on the territory. As a result, the amounts of incompleted production exceed the normed amounts by 1.5-2.5 times, and their absolute amount is equal to or greater than the annual amount of capital investments.

The dragging out of construction periods also has a negative influence upon the work results of construction and installation organizations by increasing procurement and warehouse costs and overhead expenditures.

The creation of large-capacity, centrally managed and maneuverable construction and installation organizations will make it possible to improve the planning of the use of capital investments with regard to the needs of animal husbandry. As for now, the weakness of construction organizations is compelling farms to increase construction with their own resources, and its amount is much greater than the ceilings which are allocated for these purposes.

A serious shortcoming in the utilization of capital investments in animal husbandry is the low proportion of funds which are utilized for the reconstruction of animal husbandry farms. Yet, in most cases appropriations for these purposes would yield a high economic effect. It is sufficient to cite the following example. In 1971-1975 on the kolkhozes of Nikolayevskaya Oblast six percent of the calf barns and 12 percent of the cow barns were not used for their direct purpose, since the existing housing was more than sufficient for the herd. Nevertheless, during the past five-year plan more than 200 additional cattle barns were built in the oblast. It goes without saying that this kind of approach to the utilization of capital investments does not create the conditions for increasing return on capital and shortening the reimbursement periods for expended resources.

At the same time, most of the problems of the development of cattle breeding could have been solved by means of the reconstruction of existing housing with substantially smaller capital investments than in new construction. Thus, on the kolkhozes "Mayak" and "Oktyabr'" in Znamenskiy Rayon, Nikolayevskaya Oblast, the cost of a stall in the nearly constructed calf barns came to 512.2 and 700 rubles while in reconstructed barns it did not exceed 350 rubles. Yet, in this rayon reconstruction is being carried out not on livestock sections and complexes, but on individual barns. And it not accidental that the capital investments in reconstruction do not exceed one-fifth of the capital investments in animal husbandry.

The prolongation of capital investment mastery periods and, correspondingly, the lowering of the level of return on capital are being aggravated by the unsatisfactory provisioning of animal husbandry with agricultural equipment. In additon, overall deliveries of machinery and equipment to newly constructed animal husbandry facilities are carried out on time on the basis of schedule plans, while deliveries for reequipping and reconstruction are not performed in an overall manner, are late, and are not in keeping with requisitions.

Attention should also be given to the fact that the planning of amounts of capital investments is frequently performed without regard to past shortcomings. Thus, on the kolkhozes of Novoodesskiy Rayon in Nikolayevskaya Oblast the total amount of investments stipulated by the plan for the 11th Five-Year Plan comes to 55.2 million rubles. Of the total amount of planned work, 44.2 percent has been scheduled for the oblast inter-kolkhoz construction organization, 7.1 percent for the farms themselves, and 48.7 percent for other organizations. In other words, a further dispersion of resources is presupposed.

We are convinced that in order to improve the utilization of capital investments in animal husbandry it is necessary to concentrate the capacities of construction and installation organizations and to centralize their management. The number of newly begun construction projects has to be curtailed, and the amount of incompleted construction has to be brought to the norm as rapidly as possible. It would be advisable to improve material and technical supplies of machinery and equipment sets and construction materials for animal husbandry facilities which are being reequipped and reconstructed.

The solution of these problems will make it possible to substantially increase the effectiveness of capital investments.

2959
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AGRO-ECONOMICS AND ORGANIZATION

ADDITIONAL MEASURES FOR IMPROVING PRIVATE PLOT OPERATIONS DESCRIBED

Moscow KHOZYAYSTVO I PRAVO in Russian No 6, Jun 81 pp 3-8

[Interview with A. Iyevlev, Deputy Minister of Agriculture for the USSR; date and place not specified]

> [Text] Deputy Minister of Agriculture for the USSR A. Iyevlev provides answers to questions posed by our special correspondent concerning new aspects in the development of private plots.

[Question] First of all, Aleksandr Ivanovich, tell us about the importance of private plots under present day conditions.

[Answer] Beyond any doubt, the principal source for satisfying the country's requirements for food goods and agricultural raw materials is the public production by kolkhozes, sovkhozes and other state and cooperative enterprises and organizations.

For example, in 1980 their proportion of the state procurements of grain, sunflowers, sugar beets, cotton and flax fibre amounted to 100 percent, livestock and poultry -- 95, milk -- 95, eggs -- 97, wool -- 83, potatoes -- 68, fruit and berries -- 70 and grapes -- 88 percent.

"But by no means is this meant to imply" stated Comrade L.I. Brezhnev when speaking before the 26th CPSU Congress, "that we can neglect the opportunities afforded by the private plots. Experience testifies to the fact that such plots contribute substantially to the production of meat, milk and certain other products. The orchards, gardens, poultry and livestock which belong to workers represent a portion of our overall wealth."

In discussing the importance of private plots under present day conditions, it should be borne in mind that almost 8 million hectares of land are being used by the population in the private sector and that approximately 23 million head of large-horned cattle, including 13 million cows, more than 14 million swine and 29.2 million sheep and goats are being maintained on private plots. The farms of the population are producing one fourth of the gross agricultural output. Generally speaking, this represents a large agrarian department of the country.

Thus the 8 January 1981 decree of the CC CPSU and the USSR Council of Ministers entitled "Additional Measures for Increasing the Production of Agricultural Products on the Private Plots of Citizens" is directed towards expanding considerably the production of goods on private plots.

However, the importance of the private plots is not determined only on the basis of the production volumes. More importantly, they solve the task of supplying the rural population with many food products, they increase the income and improve the welfare of a definite category of rural workers, they produce moral satisfaction and they instill love for the land and for nature.

School children and pensioners are able to work on private plots and on private subsidiary farms and this represents additional labor resources being drawn into production operations. Deserving of special mention are the people of pension age. After having given many years to public production, they simply are unable to sit idly by and do nothing. Work which they are able to do on a garden plot or on a private subsidiary farm gives them the feeling that they are performing useful work for the state. Thus the private plots are of great importance from both an economic and social standpoint. It is a necessary form of production under socialism and for a long period of time it will stand side by side with the large-scale production operations carried out at kolkhozes, sovkhozes, interfarm enterprises and associations. The private plots and collective horticulture and gardening are deserving of maximum support and constant attention since they are important from a consumption and marketing standpoint.

One often hears the statement being made that the private plots constitute a residual element of private farming , a type of hybrid of private and personal production and the point is made that they must not be developed and that they will gradually die out. Such an opinion is entirely false. It hinders the correct orientation towards this type of production and also the creation of the required moral climate.

The private plots can and must be developed by strengthening their contacts with public production. Our task is that of supporting their development by having an all-round long-term program.

[Question] What additional measures are called for in the mentioned decree for improving the management of the private plots?

[Answer] This document includes an entire complex of measures. But initially let us direct the attention of the readers to the fact that at the moment that this decree was adopted, work aimed at increasing the production of agricultural products had already been stimulated to a considerable degree. Permit me to cite some data. Compared to 1976, when the population purchased 8.8 million young pigs and 337 million head of young poultry stock from kolkhozes, sovkhozes and incubator-poultry raising stations, in 1980 the figures were: approximately 15 million young pigs and 567 million head of young poultry stock. These increases are considerable. Each year, more than 5,000 tons of vegetable crop seed are being sold to the population through the Sortsemovoshch [Republic Office for the Production, Procurement and Sale of High-Quality Seeds of Vegetables, Melons and Fodder Root Crops] System and for the most part the requirements for such seed are being satisfied. Compared to the 1976 level, the sale to the population of fruit crop seedlings and berry bushes increased by a factor of 1.8 and strawberry plants -- by a factor of 1.5.

The kolkhozes and sovkhozes are furnishing assistance to the population in acquiring bee colonies, with the number of such colonies increasing by more than 200,000 on the private plots during the mentioned period. Solutions have also been found for other problems associated with the management of the private plots of citizens.

However, the measures undertaken have not been sufficient and, it can be stated directly, they have not been carried out in all areas.

In the mentioned decree of the CC CPSU and the USSR Council of Ministers, a new solution is being employed for combining the interests of citizens, kolkhozes, sovkhozes and the state in increasing the production of goods on the private plots. A system of contracts has been introduced for the fattening of livestock and poultry. On a contractual and voluntary basis, the kolkhozes, sovkhozes and consumer cooperatives are concluding agreements with citizens for the raising of livestock and poultry and for the production and procurement of milk on the private plots. Thus the livestock and poultry raised on the private plots on the basis of agreements with the kolkhozes and sovkhozes, and the surplus milk procured, are sold to the state by the farms and are included in the fulfillment of the plan for production and state procurements, with the established bonuses being paid out for the quantitative and qualitative indicators.

It bears emphasizing that the number of livestock raised on the basis of contracts with the kolkhozes, sovkhozes and organizations of consumer cooperation can be maintained over and above the established norms.

The decree of the CC CPSU and the USSR Council of Ministers defined the methods to be employed for solving the feed problem for privately owned livestock being raised on a contractual basis. It was recommended that the kolkhozes, sovkhozes and other agricultural enterprises provide the kolkhoz members, sovkhoz manual and office workers and other citizens who concluded contracts for the raising and fattening of livestock with additional tracts of land for the growing of forage crops, for hay making and for the grazing of livestock. The decree obligates the farms to provide maximum assistance to the kolkhoz members, manual and office workers and to other citizens in working their private plots and the additional tracts of land made available to them.

Sovkhozes and other goskhozes [state farms] are authorized (following fulfillment of the plan for selling grain to the state) to sell grain actively to sovkhoz workers who are not entitled to obtain it according to existing statutes and also to pensioners who worked at the farms in question for an extended period of time. In the process, the expenditure of grain for this purpose must not exceed three percent of the total yield and be no more than 2 quintals per permanent worker or pensioner.

Commencing in 1982, the State Plan for the Economic and Social Development of the USSR will call for the allocation of concentrated feed to Tsentrosoyuz [Central Union of Consumers' Societies] for counter sale to those citizens who concluded contracts with the organizations of consumer cooperation for livestock and poultry procurements.

Sovkhozes are authorized and the recommendation has been made to allow kolkhozes to liquidate up to 50 percent of the credit extended to manual and office workers and kolkhoz members, for the purpose of acquiring cows and heifers, provided these workers perform in a conscientious manner at these economic organizations, and also to those teachers and doctors who reside on their territories. Permission is granted to provide young families, for the purpose of establishing their own private plots, with young livestock free of charge, provided the members of these families work at kolkhozes or sovkhozes.

A system has been established by means of which the outbuildings required for the management of private plots will in the future be erected (in accordance with a single plan and simultaneously with the construction of the housing) using funds allocated for housing construction for the agricultural branch.

Mention is also made in the decree of the need for further developing collective horticulture and gardening. A recommendation was made to have the councils of ministers of union and autonomous republics and the executive committees of local soviets of people's deputies undertake measures aimed at satisfying the requests of enterprises, organizations and institutes regarding the withdrawal of tracts of land for collective horticulture and gardening. The list of lands which can be used for these purposes has been expanded and, in particular, authorization has been given for tracts of land from the state forest fund to be made available for collective horticulture and gardening, tracts which are not covered by timber or occupied by forest plantings of low value, in green and suburban zones of cities and by way of an exception -- unused overlapping, low-contour lands and the low productivity lands of kolkhozes, sovkhozes and other agricultural enterprises.

For the construction of garden sheds and for making improvements on garden tracts, manual and office workers can now obtain loans of up to 3,000 rubles, with repayment spread out over a period of 10 years, commencing with the third year following the one in which the loan was issued.

The appropriate ministries and departments and also the local soviets are tasked with developing and implementing additional measures aimed at increasing the production and sale to the population of orchard and garden implements, packaging and wrapping materials, light mechanization equipment, organic fertilizers and lime materials. The organizations of Goskomsel'khoztekhnika for the USSR are tasked with the repair and technical servicing of light mechanization equipment belonging to citizens.

In the degree, attention is focused on the need for expanding the procurement activity of consumer cooperatives and developing the commission trade at kolkhoz markets in meat and other agricultural products.

Thus the range of additional measures is extremely diverse -- it embraces all of the principal aspects of the socio-production problem of the private plots of citizens. The task now consists of carrying out these measures.

[Question] At the present time, how is work proceeding in the various areas in connection with the management of the private plots?

[Answer] In the development of the private plots of citizens, noticeable improvements have taken place especially in those areas where proper attention is being given to this problem by the local soviets and agricultural organs. L'vovskaya Oblast serves as a good example of this.

The L'vov workers are persistently carrying out work aimed at intensifying public animal husbandry, they have developed and introduced a flow line-departmental system for the production of milk and they are successfully employing industrial technologies for the production of beef, pork, poultry meat and eggs. Moreover, it can be stated directly that their indicators are good. During the Tenth Five-Year Plan, meat production increased by 9 percent above the level for the Ninth Five-Year Plan, milk -- by 16 percent, eggs -- by 81 percent. During the past 3 years, the productivity of the cows was raised by almost 400 kilograms and reached 3,000 kilograms of milk annually.

At the same time, the local organs of authority in the oblast are devoting a great amount of attention to the private plots of rural and municipal residents. This is borne out by the following data. The gross agricultural output of kolkhoz members and manual and office workers increased by 23.9 percent above the 1965 level, including animal husbandry products -- by 30.3 percent. For every 100 families of kolkhoz members or manual and office workers residing in the rural areas, 128 head of large-horned cattle, of which 63 are cows, are being maintained on private plots. During the past 4 years alone, the number of large-horned cattle on the private plots of citizens increased by 7,000 head and swine -- by 28,000 head.

A thorough study is being undertaken of the population's wishes throughout the oblast, which types of livestock they wish to raise, in which period they wish to obtain their animals and under what conditions. The data obtained is being summarized and the demands of the population are being satisfied. For example, for 1981 the population requested approximately 15,000 young heifers for raising brood stock, 90,000 young pigs and 8 million head of young poultry, including 3 million water fowl. All of the wishes of the residents have been introduced into the plans and their requests will be satisfied.

And certainly the local soviet and economic organs in L'vovskaya Oblast are not overlooking one of the most important aspects -- ensuring that the privately owned livestock are supplied with feed. For example, last year the oblast's population purchased 2,700 tons of mixed feed, 35,000 tons of grain and 6,000 tons of coarse and succulent feed. In addition, the owners of livestock were allocated 10 percent of the hay, haylage and silage procured from the farms and up to 20 percent of the straw and also pasture space. On haying tracts where it was impossible to employ equipment, the hay was procured manually for the citizens. In this instance, they were allocated 50 percent of the hay procured free of charge.

And the L'vov cooperation specialists are also keeping pace with the times. The logistical base for the organizations of consumer cooperation is being expanded and a number of facilities are being erected: new receiving points, stations for the slaughtering and processing of livestock and poultry and enterprises of the trade network. As a result, during 1980 the procurement turnover increased by 51 percent above the level for 1980 and amounted to 32 million rubles.

Fine experience in the management of the private plots of kolkhoz members, manual and office workers of sovkhozes and other citizens has been accumulated in Grodnenskaya Oblast in the BSSR. In 1980, each rural farmyard sold 70 kilograms of meat and 706 kilograms of milk per cow to the state. For every 100 families residing in the rural areas, there are 80 cows and 126.7 head of swine. The problems associated with the management of the private plots of citizens are included in the collective contracts and agreements. In the workers' committees of sovkhozes and the professional trade union committees of kolkhozes, committees have been created for collective horticulture, gardening and animal husbandry. These committees are performing a great amount of organizational work in connection with furnishing assistance to the population in tilling their private plots, procuring and transporting feed, selling their excess agricultural products and so forth.

On a majority of the farms in the oblast, tracts of sown grasses are being set aside for procuring coarse feed for the population and hay, straw, root crops and grain are being sold to satisfy the requirements of the privately owned livestock.

In conformity with the conditions of the socialist competition, developed by the rayon soviets of people's deputies and the rayon committees of professional trade unions, incentives are being awarded to the best milk collectors and livestock procurement specialists.

The kolkhozes and sovkhozes are primarily responsible for the successes achieved in developing the private plots in Grodnenskaya Oblast. During the years of the past five-year plan, they increased the feed yield per hectare of agricultural land by 30 percent above the level for the Ninth Five-Year Plan, they raised the cropping power of the grain and pulse crops by 1.4 quintals and during the five-year period they harvested an average of 24 quintals per hectare. The average annual gross output increased by 16 percent above the level for the Ninth Five-Year Plan, meat -- by 25 and milk -- by 18 percent. Labor productivity increased by 27 percent. At the same time, the workers in Grodnenskaya Oblast did not overlook the private plots, but rather they viewed their development as a production reserve and they utilized this potential to a considerable degree.

Positive experience in the management of the private plots was also accumulated in other oblasts and republics. Many fine examples could be cited drawn from the Baltic region and Odesskaya and Volynskaya Oblasts.

However, this is not the case in all areas. In December of last year, the Board of the USSR Ministry of Agriculture examined the work of the agricultural organs in Kaluzhskaya and Permskaya Oblasts with regard to organizing the production and procurements of agricultural products on the private plots of citizens.

A check carried out in the various areas and a discussion of the problem by the Board revealed that the role played by the private plots in augmenting the country's food resources is clearly underestimated in a number of rayons in the mentioned oblasts. As a result, a reduction has taken place in the number of large-horned cattle on the private plots of citizens and decreases have been recorded in milk production and in the procurements of certain important types of agricultural products. The kolkhozes and sovkhozes have not organized the reproduction of young swine in quantities which would fully satisfy the requirements for them of kolkhoz members, manual and office workers and other citizens. Insufficient assistance is being furnished to the population for procuring feed for their livestock and very little attention is being given to developing collective horticulture and gardening.

The procurement of young cattle stock from the population was not organized on some farms and, as a result, the calves were slaughtered for meat purposes at the age of 2-3 weeks.

Similar shortcomings, in varying degrees, are typical of other oblasts and rayons throughout the country.

Certainly, it would be incorrect to state that this situation was caused only by a lack of attention on the part of the agricultural organs or other individual factors. An entire complex of causes took place here of an economic, social and administrative nature. In one instance no feed was made available, in another -- there were no outbuildings, in a third -- the procurement system was not organized properly, in a fourth -- there was no light mechanization equipment or orchard-gardening implements and so forth.

It would appear that the problem of developing the private plots requires a systematic approach, a complex solution and a concentration of efforts by many ministries, departments and economic organs.

[Question] What is being done by the organs of agricultural administration to ensure that the decree of the CC CPSU and the USSR Council of Ministers is implemented in an efficient and active manner?

[Answer] The agricultural organs, kolkhozes and sovkhozes are carrying out a great amount of work in this regard.

First of all, large-scale feed production measures are being developed at all levels. Under the conditions found in our country, which has vast expanses of land at its disposal, coarse, succulent and green feeds must occupy a considerable place in the feed balance of animal husbandry. The local agricultural organs, kolkhozes and sovkhozes are examining the structure of the feed plantings, developing measures aimed at raising the cropping power of the forage crops in field feed production operations, planning measures for the intensification of the natural feed lands and so forth. All of this will make it possible for the kolkhozes and sovkhozes to allocate more feed for the privately owned livestock. The volumes for such deliveries are being included in the plans.

The country's kolkhozes and sovkhozes are planning additional measures for the reproduction of young pigs and young poultry stock. Reproduction swine farms which earlier were done away with are now being restored. By 1985 the sale of young pigs to the population will increase to 17 million head annually and to 20 million head during the Twelfth Five-Year Plan. Increases are taking place in the incubation volumes for chicks and young water fowl. By the end of the Eleventh Five-Year Plan, the incubator-poultry raising stations, poultry sovkhozes and poultry factories will annually be supplying 700 million head of young poultry stock for sale to the population, almost two times more than the figure for 1980.

The USSR Minsel'khoz [Ministry of Agriculture], USSR Minzag [Ministry of Procurements], USSR Minfin [Ministry of Finances] and the USSR CSA have developed, approved and sent out to the various areas standard contracts for the raising and procurement of livestock and poultry and also surplus milk, on the private plots.

The USSR Minsel'khoz has issued an instruction to the local organs concerning the introduction of the post of deputy sovkhoz director (deputy kolkhoz director) or specialist for the management of private plots and their official salaries.

The USSR Goskomtrud [State Labor Committee], based upon a recommendation by the USSR Minsel'khoz, has introduced a change to the statute on wages for farm leaders and specialists. Today the volume used for determining a wage group includes the value of the gross output produced on the private plots, on the basis of contracts with kolkhozes and sovkhozes, and sold to the state by the farms.

The land management service reveals the land that can be used for collective horticulture and gardening.

The State Inspection for Plant Quarantine has been tasked with carrying out, in the established manner, controlled inspections on the private plots of citizens and on collective orchards and gardens, for the purpose of uncovering quarantine plant pests and diseases.

Measures are being undertaken aimed at publishing the textbooks required by those citizens having private plots and also by the members of horticultural associations.

The agricultural specialists are constantly publishing materials in newspapers and journals in which they offer advice and recommendations on the management of household farms.

A special structural subunit has been created within the USSR Minsel'khoz for the purpose of coordinating all work concerned with organizing the management of the private plots of citizens and collective horticulture and gardening.

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NEW PROCUREMENT PRICES FOR BELORUSSIA LISTED

Minsk SEL'SKOYE KHOZYAYSTVO BELORUSSII in Russian No 7, Jul 81 p 20

[Article by A.M. Pshenko, department chief of BSSR State Committee for Prices: "New Procurement Prices"]

[Text] On January 1981, new procurement prices for a number of agricultural products went into effect. This will make it possible to stimulate in still greater measure their production and procurement.

For Belorussian SSR, new prices have been set for grain crops, flax products, pork, milk, mutton, sugar beet.

In particular, the procurement price for soft wheat was set at 150 rubles, rye--160 rubles, fodder barley and oats--110 rubles, brewing barley--180 rubles, buckwheat--330 rubles, food yellow and green peas--200 rubles, fodder peas (gray)--150 rubles, forage vetch--180 rubles per ton in basic condition.

Procurement prices have been significantly raised for the products of fiber flax. They were set according to the following rates (Table 1).

It is stipulated that the stems of flax stock (putanina) are to be paid in procurement prices of flax stock number 0.5 with a reduction of 10 rubles per ton. Flax stock from number 0.75 and flax straw from number 1 of the following selection grades are paid for with procurement prices with markups-- Orshanskiy-2--15 percent, Vpered, Progress and Pskovskiy-359--10 percent and Svetoch and Shchokinskiy--5 percent.

As of the 1981 harvest, the reduction has been abolished for the procurement price of flax stock with a weed content of 5 to 10 percent in the amount of 0.8 percent for each percent of weed content in excess of 5 percent.

Prices for milk have been raised almost 11 percent. The procurement price for first grade has been set at 284 rubles, for second grade--254 rubles and for non-graded--223 rubles per ton with a basic fat content. The procedure of payment of an additional charge for refrigeration of first-grade milk at the moment of receipt to 10°C is in amount of 5 rubles per ton. In sale of milk by the population without determination of grade, payments for it are made on the basis of prices for second-grade milk, that is, 254 rubles per ton.

Table 1

Scutched flax		Short flax fiber		Flax stock		Flax straw	
number	price	number	price	number	price	number	price
8	2,670	2	625	0.5	170	0.5	90
9	2,840	3	795	0.75	300	0.75	160
10	3,070	4	1,020	1.0	385	1.0	250
11	3,290	6	1,478	1.25	460	1.25	320
12	3,630	8	2,050	1.5	545	1.5	390
13	3,980	-	---	1.75	630	1.75	470
14	4,200	-	---	2.0	730	2.0	540
15	4,430	-	---	2.5	850	2.5	610
16	4,660	-	---	3.0	960	3.0	680
18	5,000	-	---	3.5	1,050	3.5	750
20	5,230	-	---	4.0	1,165	4.0	830
22	5,450	-	---	-	---	4.5	910
24	5,680	-	---	-	---	5.0	1,000

New prices for pork that have been set are higher by an average of 7.5 percent. The procurement price for 1st category pigs (bacon young stock) is 2,100 rubles, 2nd category(meat young stock and also the young stock of young female pigs)--2,050 rubles, 3rd category (fat pigs, including sows and castrated males)--2,050 rubles, 4th category (castrated males and sows)--1,400 rubles, 5th category (suckling pigs) --2,500 and scrawny pigs (substandard)--1,130 rubles per ton of live weight.

Inasmuch as the sale of pork to the state by kolkhozes, sovkhozes and other agricultural enterprises and associations is done in the republic on the basis of weight and quality of meat, the set prices for live weight in accordance with existing norms of meat output are recomputed into prices for meat and have been approved according to the rates below (see Table 2).

Procurement prices for sheep in live weight were raised 43 percent on the average. Recalculated for meat, they were set in the rates shown below (Table 3).

Sugar-beet prices were raised 11 percent and were set at 50 rubles per ton.

Prices set for kolkhozes, sovkhozes and other agricultural enterprises also apply in the case of sale of products by the population to the state.

From 1 January 1981 to the end of the five year plan, kolkhozes, sovkhozes and other agricultural enterprises and associations will be paid an increase in the amount of 50 percent of procurement prices for sale to the state of grain, sugar beet, flax products, potatoes, hops, livestock and poultry, milk, wool, eggs above the medium level reached in the 10th Five-Year Plan.

Table 2

	In rubles per ton of meat
1st category (bacon young stock) with hind legs	3,167
2nd category (meat young stock and also young stock of young female pigs)	
without skin	3,522
in skin with hind legs	3,101
in skin without hind legs	3,144
with removal of butt	3,306
3rd category (fat pigs, including sows and castrated males)	
without skin	3,213
in skin with hind legs	2,875
in skin without hind legs	2,908
with removal of butt	3,051
4th category (castrated males and sows)	
without skin	2,406
in skin with hind legs	2,118
in skin without hind legs	2,147
with removal of butt	2,258
5th category (suckling pigs)	3,551
Scrawny pigs and young female pigs (substandard)	
without skin	2,220
in skin with hind legs	1,912
in skin without hind legs	1,938
Substandard young pigs with hind legs	2,260

Table 3

	In rubles per ton	
	live weight	meat
Sheep (except sheep of Romanov breed and their crossbreeds) and goats		
top-level fed	2,700	5,882
average fed	2,190	4,944
below-average fed	1,600	3,922
scrawny (substandard)	1,250	3,324
Sheep of Romanov breed and their crossbreeds		
top-level fed	3,000	6,536
average fed	2,500	5,643
below-average fed	1,880	4,608
scrawny (substandard)	1,500	3,989

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AGRO-ECONOMICS AND ORGANIZATION

HIGHLY EFFICIENT INNOVATIVE FARMING UNITS

Moscow SEL'SKAYA ZHIZN' in Russian 15 Aug 81 p 2

[Article by I. Puzyrev (SEL'SKAYA ZHIZN' correspondent), Kustanayskaya Oblast : "Management: Practice and Problems. Highly Efficient Units"]

[Text] The suggestion of Vladimir Ivanovich Yermakov sounded interesting right away. First of all, it was a tempting thought that implementation thereof at the sovkhoz would solve the problem of machine operator resources. But the estimates of Yermakov went farther: there must be drastic increase in efficiency of grain production as well.

Vladimir Ivanovich is a recognized master of his trade. His firm temperament, industriousness, high professionalism, rich experience and excellent knowledge of the distinctions of agriculture in different localities have made him an unquestionable authority on development of virgin soils.

Still, is he not being too bold in undertaking the establishment of an unregulated [without stipulated work norms] tractor-operated field crop growing unit? Will he be able to recruit machine operators of his caliber and create a harmonious team? In an unregulated unit, each must work equally well, quick on the uptake, not choose the easier and more profitable job, and carry the common burden together.

"We took a chance. It was a new venture. And this, not only for our farm, but for the region and oblast," recalls Fedor Fedorovich Latysh, director of the sovkhoz. "However, something new knocked insistently at the door. The knowhow and skill of Yermakov, his profoundly thought out and thoroughly checked estimates inspired confidence in this innovation."

Thus, 3 years ago, at the Sovkhoz imeni Chekhov, an unregulated tractor-operated field crop growing unit was organized, and Vladimir Ivanovich Yermakov became its leader.

A six-field crop rotating area of 2817 hectares was assigned to this unit, which consisted of 6 other machine operators. The soil that the unit had to work with was not the best--solonets [alkali soil]. Obviously, this did not rejoice the machine operators. Neither did it deter them; on the contrary, it strengthened their desire to prove that one could achieve good results, even with infertile soil, provided the attitude toward the land was caring, management was good and one adhered faithfully to the erosion-control system of working the soil. The unit was given three K-700 tractors, three DT-75M, six Niva type combines, a set of attachments [tools to be mounted on machines] and other necessary equipment.

In the very first year, this unit made corrections in the planned norms. There was an increase in productivity of the tractors and combines, reduced expenditure of fuel and lubricants, as well as supplies used to service the equipment, and the cost of grain dropped.

Proper organization of labor, there was strong solidarity in the team, awareness of the fact that each is responsible for the harvest; members of the unit are helped with regard to being able to work without commotion, calmly and productively.

There is an item in the labor agreement between the sovkhoz management and this unit, which entitles the director to deny bonuses and prizes to machine operators on the basis of the annual achievement, entirely or partially, if some member of the unit caused waste or disrupted work discipline. The director has not yet had to enforce this right.

Last year, the unit experienced some serious trying times during the harvesting period. The grain ripened later than usual. The slightest delay or deliberation could have had an adverse effect on the results of much persistent work, it could have reduced to a minimum the efforts of the machine operators. The unit worked fervently and vigorously. Skill and mutual help saved the day. Yermakov alone milled more than 10,000 quintals of grain. L. V. Korzh and N. M. Yachnik achieved about the same. The others also achieved good results. The overall output per combine was in excess of 500 hectares. Moreover, before frosts began, the machine operators were able to perform fall plowing over an area of 1200 hectares, and deliver in time the straw to the places where cattle were to spend the winter.

The unit produced 25 quintals of grain per hectare, versus 21.4 quintals milled as the average for the sovkhoz. The cost of the grain grown by the unit turned out to be significantly lower than the cost for the sovkhoz. On the whole, a quintal of grain cost this farm 4.85 rubles, versus 2.61 rubles in the unit. In this unit, each worker produced 60,140 rubles worth product, versus 14,015 rubles for the sovkhoz.

The high production achievements of the unit also resulted in high wages for the machine operators. Including the payments according to job classification [category] and tenure, each of them received a bonus of 5260 rubles in 1 year.

In their concern about maximum utilization of equipment, the machine operators are constantly thinking about how to increase its productivity. Recently, for example, V. I. Yermakov upgraded the use of the wide-span S-21 hitch for rolling soil; he installed containers on the loading ramp [platform] to service the combines; he refined hitches for snow plows. These rationalizing suggestions yielded a savings ["economic effect"] of 3000 rubles.

The sovkhoz director and Party committee have actively supported the team of V. I. Yermakov and helped him all these years. After V. Yermakov, this unregulated unit was headed by Ye. Ravenskiy. This year, four such units are already working at the sovkhoz. Three of them cultivate grain crops. The unit headed by A. Gorshinev raises corn for silage. It is remarkable that not only experienced, but young machine operators take a proprietary interest in the land. Soon, the Komsomol youth unregulated unit of Sergey Poverinov, which is headed by V. Yermakov and his comrades, will reap its first harvest. After all, it is easier for the young to study and learn new things when there are concerned and knowledgeable mentors by their side.

Nikolay Vasil'yevich Gnoyevoy, first secretary of the Uritskiy raykom, Hero of Socialist Labor states: "The unregulated units meet in full the needs of today and open up latitude for creativity and initiative of grain crop growers. Last year, following the example of the Sovkhoz imeni Chekhov, six tractor-crop growing unregulated units were organized in this rayon, which are comprised of 40 machine operators. A total of 17,299 hectares was assigned to them. Grain crops were raised over an area of 14,864 hectares. The unregulated units produced 25,858 tons of grain. That is the amount of grain that an entire sovkhoz can sell!"

This year, there were 29 unregulated units working in Uritskiy Rayon. At present, grain crops are being raised by unregulated units over an area of almost 100,000 hectares, which is a quarter of the area of this rayon on which grain crops are raised.

Following the example of its neighbors, Kustanayskiy Rayon has also headed in the direction of forming unregulated units. There are already 24 of them. Taranovskiy and Karasuskiy Rayons are also interested in them. However, other rayons are still not rushing into this, as if engaged in taking a closer look at such units. But there is no need for this, since the unregulated units in newly developing areas have made an excellent name for themselves. They should be widely encouraged.

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TILLING AND CROPPING TECHNOLOGY

FURTHER DEVELOPMENT OF RYE CROP IN NORTHERN RSFSR URGED

Moscow IZVESTIYA in Russian 5 Aug 81 p 2

[Article by N. Gryzlov, I. Dement'yeva, A. Yezhelev, A. Yershov, A. Sabirov (Kirovskaya Oblast, Udmurtskaya ASSR): "Rye Bread"]

[Text] The residents of Nonchernozem and other areas have a special attitude toward rye bread. A meal is not considered complete without "black" bread. Rye bread is valued for its high caloricity, good taste and smell. For example, the protein in rye contains 2.5 times more lysine, that irreplaceable amino acid, than does wheat. Rye also contains many vitamins.

However, pure rye bread can rarely be found among the many varieties of bread and bakery goods located on the counters of stores. This is not because the demand for it has fallen. It is simply that today less rye is being sown. During the last five-year plan the area used for sowing rye was reduced by 800,000 hectares and comprises 7.7 million hectares. Moreover, the interest in producing rye has even decreased in areas which traditionally raise it.

Why is it that from year to year the areas being sown with winter rye in Nonchernozem are being reduced? How can one explain the slow increase in its harvest? We wanted to clarify these and other questions by inviting specialists from IZVESTIYA, production organizers, farmers and scientists to sit at a "round table." The location of the meeting was not chosen by chance. Among the oblasts and autonomous republics of the Russian Nonchernozem, the Kirovskaya Oblast sows more rye than any other oblast. Although the area sown with rye here has been reduced in recent years, during the 10th Five-Year Plan rye nevertheless occupied almost 500,000 hectares.

At this time the rye fields, which have already turned yellow, are easy to differentiate from the low-growing barley fields which are just beginning to lighten and from the short but still green oat fields. When the participants of the "round table" surveyed the areas sown in rye on the Krasnyy Oktyabr'Kolkhoz of the Kumenskiy Rayon, they came to the conclusion that the rye held up. One has to admit that a relative understanding of the words "round table" in this situation is especially evident: the meeting went from the table in the office of the kolkhoz chairman to the inside of the press bus, which then stopped at the edge of the rye fields where the discussion continued under the open sky. Despite difficult weather conditions, there will be a rye yield of approximately 15 quintals of grain per hectare per farm. The first brigade is counting on 20 quintals.

Here we also saw fields which had been prepared for the winter crop one month prior to sowing. It was not a simple task to break up the earth after the alfalfa during such a drought (the kolkhoz had no rain). However, the field did not look bad. Later, in the kolkhoz administration, V. Korobeynikov, the chief agronomy specialist on the farm, explained to the "round table" participants the reasons for their ability to gather a high yield of rye from year to year. One could feel that the attitude here towards this crop was special. It had been given 1,000 hectares of land which was one-third of the sowing area for grain. The rye never disappointed the Krasnyy Oktyabr' farmers. To a great extent the rye harvest on neighboring and distant farms depends upon seed raising farms and upon the quality of the grain raised on its fields. Therefore, said both the chief agronomist on the farm and the feed producer V. Gagarinova, they do not allow any agrotechnical details to be missed. Less than one-third of the area sown with rye is located on clean fallow land, while the remainder of the rye is located on occupied fallow land or on such predecessors which allow for the land to be prepared in time for sowing. The optimal time frames for sowing are strictly adhered to, and it is carried out in 5 days. They feel that this is one more part in establishing a firm foundation for the future harvest.

Only the seeds which were gathered from the preceding year and which have been well prepared and treated are sown. V. Korobeynikov is convinced that this provides for a minimum of 2-3 quintals of harvest per hectare. In the spring all of the areas are fertilized. However, this is not done from the air, as many do, but by way of a more efficient ground and radical method; less fertilizer is necessary and the fertilizer used does more good. In the rayon or oblast, there are few kolkhozes or sovkhozes which gather twenty and more quintals of rye per hectare, like Krasnyy Oktyabr'; however, specialists consider the potential of rye to be very great. This is also confirmed by the harvest of progressive farms and by harvests gathered at experimental stations of scientific institutions.

L. Kedrova, director of the selection laboratory for winter rye at the zonal Northeast Agricultural Scientific Research Institute said, "For many years rye has saved the farmers particularly in such dry years. We had droughts in our zone in 4 out of the last 10 years. During those years the harvest yield of rye was considerably greater than that of summer crops. As we see now, there will be more rye than other grain crops."

In that case why is the area sown with rye being reduced? There are many reasons for this. In a number of places the rye was crowded by winter wheat. In the Volgo-Vyatskiy Rayon the rye is being chiefly replaced by grainforage crops. An opinion has formed that rye is a low-yield crop and that it is inferior to the spring's grain such as barley and oats. But is this always the case? Hardly. The better farms and scientific institutions harvest forty and more quintals per hectare of it. In 1979 on the field of the Kirovskiy Agricultural Institute experimental farm 65 quintals of grain per hectare of the "golubka" variety were harvested.

Apparently the point is not in the crop but in the attitude taken towards it. Many of those who gathered around the "round table" believe that the opinion that rye is an undemanding crop is harmful. On the contrary, the least infringement upon the agricultural technology in producing it affects the harvest. V. Palkin, chief scientific worker of the Udmurtskiy State Experimental Agricultural Station cited these figures. In 1976 27.5 percent of the rye was sown in an optimal period of time, and an average of 6.2 quintals per hectare was harvested throughout the republic. In 1977 67.8 percent of rye was sown in the best period of time, and 16.2 quintals of grain were harvested. It is possible that the difference in yield was not determined solely by the time frames for sowing. However, there is no doubt that the time period of sowing significantly influenced the harvest.

It is essential to do everything on time. Only then can one count on a high harvest yield. Today many farms are late in preparing the soil. Even the fallow land is turned over late. During the best years in both the Kirovoskaya Oblast and in the Udmurtskaya AAR 70-75 percent of the fallow land is worked prior to 1 June and more often 30-40 percent is worked. Such fallow soil is of little use. The farmers spoke specifically about this topic. Let us take seeds. Thirty to 60 percent of the rye field (depending upon the year) are sown with ungraded materials. Work with seeds has not yet become a daily concern of specialists.

L. Koryakin, chairman of the Krasnyy Oktyabr' Kolkhoz said that combine operators do not like to harvest rye: no speed can be picked up. This is understandable. When harvesting 30 quintals, it is necessary to "thresh" 60 quintals of hay. This is a great load. Moreover, the Vyatka-2 variety of rye is taller than a person and it does not grow smaller at harvest time. If the straw is wet, it clumps and every 10-15 meters it becomes necessary to stop the combine and clean it. On the kolkhoz they calculated that combines wear out twice as fast when used in rye harvesting.

The purchasing price for rye is somewhat higher now than for wheat and oats; however, it does not always proportionally compensate for the additional expense. The labor consumption of the crop is not fully taken into account. However, it should be. Then no one would begin to exchange rye for spring grain. Here is something for the leaders of this branch and for the Committee on Prices to think about.

Recently plant breeders developed several perspective short-stock varieties of rye. They are for example Chulpan, Voskhod-1 and Voskhod-2. However, they are poorly adapted to conditions of the Volgo-Vyatskiy Rayon. Here we should note that local farms in practice are not using the preparation "kampazan," which shortens the rye in its height and protects it from lodging. This preparation is not at all in short supply. It gives good results for example in Belorussia and in some of the oblasts of Central and Northwestern RSFSR.

We have 15 scientific research institutes, 4 agricultural higher educational institutions and 9 experimental and selection stations working to create new rye varieties. Over 70 varieties are being produced, including 51 which are divided into districts. However, not everyone is happy with these figures. The chief areas (92.2 percent) are used by 14 varieties. The remainder cannot withstand the competition and do not carry out the demands which the farmer makes.

The plant breeders themselves admitted at the "round table" that they were not answering the needs of the practical aspect. As it became apparent, the varieties frequently are used for an unjustifiably long time on the kolkhozes' and sovkhozes' fields. In this the blame lies not only with plant breeders and scientific institutions, but also with agricultural bodies.

The best rye which we saw in the Kirovskaya Oblast grew on the fields of an agricultural institute. It occupied slightly more than 200 hectares here. The rye seemed lower than on Krasnyy Oktyabr', but thicker and the ears seemed denser. According to the specific evaluation of specialists, on one side of the road they will gather 40 quintals per hectare and on the other side 35 quintals. In such a year! This variety is called "golubka" and is the selection of the Northeastern Agricultural Scientific Research Institute. It was created by K. Shelyganova, honored agronomist of the RSFSR and candidate of agricultural scientists. She participated in the conversation of the "round table." During a break in the talks we asked what kinds of comments on "golubka" were being made by the farms.

"The responses are good, but they are sowing very little. Seed farming is disappointing."

It became clear that the variety was intended for the Kirovskaya Oblast since 1978, but it occupies no more than 1,500 hectares of production land, although, according to the data of the State Commission on Sorting, it exceeds the harvest of Vyatka-2 which is a widely distributed variety in the oblast. The grain is superior in quality and practically does not lodge. There is an inadequate amount of seeds. The institute did not concern itself with them and the leaders of the oblast agricultural administration did not show any interest in them.

Moreover, the issue concerning establishing a supply and equipment base for variety seed breeding and the issue concerning transferring it to an industrial base was not raised a single time at oblast agronomical conferences and meetings of agricultural leaders and scientists.

It has been calculated that for a consistent variety renewal of grain crops, kolkhozes and sovkhozes in the oblast require annually 6,000 tons of seed stock. In order to create them in the most efficient manner and get 20,000 tons of seed by the first reproduction, it is necessary to have a network of specialized seed breeding farms which would ensure the business-like work of the oblast seed industry. Such an organizational system for seed breeding would regulate the varieties which have been newly allocated to districts, and it would ensure control for their utilization.

For several years now a selection center has operated under the Northeastern Scientific Research Institute. Staffs were established and a plan for the future was developed. There is a great deal of work. Each selector has 30-40,000 items of initial material. The specifications for sowing and caring for the plants here is such that a great deal must be done manually. Small gauged equipment may have helped, but it was not received in 1975.

As we know, the selection process can be somewhat speeded up if special hothouses are available as well as chambers with an artificial climate and other equipment. The modern selection center in Kirov has been under construction for the last 5 years. For 3 years the complex numbered among the start-up operations and now the completion date has been transferred to the third quarter of the current year. The USSR and RSFSR Ministries of Agriculture and the All-Union Academy of Agricultural Sciences imeni V. I. Lenin should become concerned with accelerating the construction and installation of equipment at the Kirov center. It was an unusual year and in discussing the rye, almost every participant in the "round table" spoke of current tasks and the necessity to derive some benefit from current lessons.

"The traditional tilling of the soil after a couple of crops can no longer be conducted," was the heated opinion of the senior scientific worker for the farming division of the Northeastern Agricultural Scientific Research Institute, I. Shenina. "Plowing can only lead to a reduction in the harvest."

In view of the fact that dry years are not rare here, many farms are striving to switch to minimal soil tilling. The need for non-earthboard equipment and heavy disk harrows is increasing. Little of this equipment reaches the Nonchernozem area. V. Cheremiskina, chief agronomist at the Oktyabr'skiy Sovkhoz spoke of the growing anxiety for next year's harvest.

"Soon we will have to do the sowing, but fertilizer has not even been added to the fallow ground. We don't have enough time to do it and Sel'khozkhimya cannot help us. We add fertilizer to the spring sowing. We do not have enough for the winter sowing, but we intend to sow all the winter crop with mineral fertilizers added to the rows. Here a great deal depends upon planning organizations and upon the chemical industry workers."

The concern for rye and for the harvest of this and next year permeated the entire conversation at the "round table." It continued on the farms which we visited and on the fields of the kolkhozes and sovkhozes. The lessons of the summer taught people to reevaluate their relationship to rye. More than one leader was heard to say: "Now we will try to sow more in order that in the spring and in the winter there will be enough feed as well as enough grain and so that in any case, we won't be left without hay. It is a promising crop."

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TILLING AND CROPPING TECHNOLOGY

FURTHER DEVELOPMENT OF RYE CROP IN NORTHERN EUROPEAN RSFSR

Moscow SOVETSKAYA ROSSIYA in Russian 25 Jul 81 p 2

[Article by K. Shelyganova, head of Chair of Selection at Kirov Agricultural Institute, candidate of agricultural sciences, RSFSR Honored Agronomist, Kirovskaya Oblast: "The Rye-Field Area"]

[Text] In September of last year SOVETSKAYA ROSSIYA printed an item called "The Rye Field." It disturbed me, but I made no attempt to write to the paper at the time. I thought: the problems were put forthrightly, it now will be easier to solve them. But no changes so far can be seen. Planning and agricultural organs and scientific-research institutions have still not expressed their weighty word concerning the winter field nor about selection of this important crop. And I thought it might be useful to expand the theme of discussion of the problems and to continue it.

Take selection. Kirovskaya Oblast where I work has been the birthplace of world famous varieties of winter rye--"Vyatka" and "Vyatka-2." They occupy here the basic areas, and this is quite a bit: Vyatka lands contain one-tenth of the entire rye area of the Nonchernozem Zone. But in recent years, here too the tendency has been noted for curtailment of rye sowings and reduction of yield. The reasons? First, a correct attitude toward the winter crop is not exactly to be found among the heads of agricultural administrations and farms; agricultural standards are extremely low; the quality of seeds is poor. Second, side by side with good winter hardiness and plasticity, Vyatka-2 has a significant defect--a strong lodging tendency, which makes harvesting difficult and results in large grain losses. Attached to its roots, a crop may look outstanding, but in the barn, it is miserable. So the rye field is "drying out" and is being crowded out by other crops.

At the same time, under our conditions, only rye provides full-valued, highly nutritive grain. With us it is irreplaceable as a fodder crop as it provides a tremendous mass of straw suitable for feeding livestock and in spring--the earliest green crop. From the agrotechnical point of view, it is in addition an excellent sanitarian of the field and grows on practically all types of soil.

Unfortunately, its yield lets us down. A.A. Goncharenko, originator of the varieties Voskhod-1 and Voskhod-2, is right (his point of view is delineated in the the article "The Rye Field) when he says that we have come to lag far behind in the selection of winter rye; the reason for that is that it is easier for us to create a variety than to introduce it. I know this not through hearsay but through my own personal experience.

While working at the Scientific-Research Institute of Agriculture of the Northeast, I was engaged for many years (even today I still have not left this beloved work) in selection of winter rye. Specialists know how difficult it is to develop a new variety meeting all the requirements of production. In winter rye its short stalks, which determine its resistance to lodging, are incompatible with winter hardiness. All short-stalk forms of rye as a rule are less winter hardy than Vyatka-2.

We, however, have been able to a certain degree to combine the incompatible: to produce something that is fairly resistant to lodging and one that is winter hardy and what is most important a higher yield variety called "Zvezdochka." I have to admit that our participation in 1977 resulted in Zvezdochka occupying more than 7,000 hectares on 50 farms. State strain testing has positively evaluated this variety. Nonetheless, as Zvezdochka has not been officially regionalized, the personnel of the oblast agricultural administration arranged a "study" for me, accused me of partisanship and finally, after fraying this plant breeder's nerves, in 1978 removed it from strain testing. My Golubka variety of rye was regionalized, although I was against this: it still required some finishing work, and there were only a few seeds. But they cut me off:

"Be glad that Golubka made it. And don't count on more: we do not regionalize two strains all at once...."

The same position was taken by the personnel of the inspectorate for state strain testing of the USSR Ministry of Agriculture to which I turned.

As an author, I can say that I did not find myself glad even in the case of Golubka, which could give up to 66.5 quintals of grain per hectare: the oblast agricultural administration and the inspectorate for state strain testing have not been adopting measures for its rapid introduction to mass sowings. Sowings of Golubka are not being expanded from year to year as should be the case, but are being reduced. The Scientific-Research Institute of Agriculture of the Northeast for a number of years now has not been ensuring the production of mother seed stock, although the primary seed growing all the time has been conducted intensively at a high methodological and agrotechnical level. Moreover, Golubka was regionalized for the central zone of the oblast, but it is grown only in the northern zone and is located on nonfallow predecessors without fertilizer, while the seeds produced on farms are constantly losing their character.

The rye area of the Nonchernozem Zone has been hurt. In the last 15 years, its size has been reduced almost 2.5-fold. The rye itself could be "blamed" for its troubles, but it is we who have made it the subject of "blame." It is enough to say that we still in Russia, as was justly pointed out in the article "The Rye Field," do not have a scientific center specializing in rye, and many local plant breeders are stewing in their own juice. Even a material base has not been created so far for selection. We do not have either hothouses, or climatic chambers, or equipment for the assessment and selection of crops.

It is becoming laughable. When the time arrives for harvesting rye on our fields, all the supervisory thresholds become worn down at the educational farm of our institute before they will let you cut it. Then you have problems with threshing, drying and sorting of the grain that is so dear to you. You can forget about selected sheaves; they say you will scorch the dryer. Yet the teaching farm has neither sorting nor sheave barns. True, the efforts of V.V. Tyulin, the rector of the institute, have resulted in the initiation of construction of flow lines for treatment of seeds, but how much effort and time was spent before this was achieved!

As for a precise system of seed growing and promotion of new strains for production fields, truly it exists more than anything else on paper. When it comes to words and reports, everybody is "for introduction," but in reality, as was the case with Golubka, no one accepts responsibility for new strains.

Each year Kirovskaya Oblast plans to sow winter rye on 600,000 hectares. The plan is not always fulfilled. The farms failed to meet their targets last autumn and, because of rains and passivity, they did not sow 172,000 hectares.

This year the harvesting of winter rye began in the oblast much earlier than usual. But while the winter area on fallow fields accumulated moisture and the plants developed more or less normally, spring wheat, barley and oats have grown poorly and their yield, according to specialists' forecasts, will be half that of winter rye.

Once more the weather has taught a lesson to the farmers of the Volga-Vyata Zone. Those who took good care of the winter fields will obtain both grain and coarse fodder for animal-husbandry farms. At the same time, those farms where, despite the recommendations of scientists, little attention was paid to winter crops will find that they will have a big shortfall of grain.

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EXPANSION OF INTERVAL FEED CROP SOWING RECOMMENDED

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[Article by A. Khalturin, department head in the Main Administration for Feed, Meadows and Pastures, USSR Ministry of Agriculture, and Yu. Novoselov, doctor of agricultural sciences, Professor at the All-Union Scientific Research Institute of Fodder: "Maximum Return From Each Hectare of Land. Feed From Interval Sowing"]

[Text] This year, the weather speeded up harvesting time in many oblasts in the European part of our country. Mass scale harvesting of winter crops was undertaken 8-12 days earlier than usual at farms in Kuban', Rostovskaya Oblast, Stavropol'skiy Kray and southern Ukraine. Grain and other crops of the Central Chernozem Belt, as well as several oblasts of the Nonchernozem Belt, are developing faster than the average time over a period of many years. Harvesting will take place earlier there also.

It is possible to grow an additional harvest of feed crops in the areas that become available. In the South, for example, there is a frost-free period of about 117-120 days after harvesting winter crops, when the sum of active temperatures will constitute over 2000 degrees. This is a sufficient amount of heat to form a good quality of early and average ripening cultivars and hybrids of corn, Sudan grass [Sorghum sudanense Stapf.] and millet for fodder. As indicated by many years of experience, if planted on 15-20 July, the green mass yield per hectare constitutes 150-170 quintals on nonirrigated land [bogara] and 250-300 or more quintals on irrigated land. In the case of later after-harvest sowing, one should raise winter-hardy crops such as peas, oats, sunflowers, winter and summer [or spring] rape, Chinese radishes, white mustard, "perko" [?], as well as mixtures of peas and oats, sunflowers and winter rape.

Leguminous crops and mixtures thereof can be planted up to 1-5 August, while Cruciferae can be planted up to the first of September. The latter can endure brief frost of up to 6-8° and form a harvest of the order of 150-160 q green mass per ha in 45-50 days; they can be used to produce green fodder virtually to the time snow starts to fall.

Special attention should be given to post-mowing and post-harvest sowing on irrigated land, where one can obtain stable harvests on the level of 3000-4000 feed units per ha. In regions of irrigated agriculture, such crops could be the chief source of green fodder in the second half of the summer and a major additional reserve of production for the period when livestock is kept in barns. After plowing such land, it must be irrigated at the rate of 350-400 cubic meters water per hectare, treated with mineral fertilizers, and the soil should be cultivated to the depth of seeding and then packed [rolled]. Moisture level during the vegetation period should be held at 70-80% of moisture capacity [specific moisture retention in soil]. Harrowing is used before sprouting, tilled crops should be worked over between rows and herbicides used to destroy weeds.

In the Central Chernozem Belt, when there are rains in July, as well as on irrigated land, post-mowing and post-harvest sowing is also an additional source for augmenting the stock of feed. There, mixtures of annual grasses, peas and oats, summer [or spring] vetch and oats, as well as triple mixtures of annual grass, sunflowers and turnips, are effective. In the Nonchernozem Belt, where it has started to rain recently, feed crops should be planted at the optimum time--the first half of July. If planted at this time, a high harvest of peas, lupine and Cruciferae--summer and winter rape, Chinese radishes, white mustard--is guaranteed. As an example, we can refer to the experience of the Arktika Sovkhoz in Murmanskaya Oblast, where the harvest of Chinese radishes sown on 11 July and gathered on 15 September constituted 230 q/ha in the last 3 years. At the experimental Zhodino farm in Belorussian SSR, 150-180 q lupine and vetch-oat mixture, 230 q turnips, 216 q annual rye grass and 300 to 350 q/ha Cruciferae were harvested after sowing on 15 July. The latest permissible dates for sowing are as follows: 18-20 July for peas, 25-30 July for rye grass and 5-10 August for Cruciferae.

When selecting fields for summer sowing, preference should be given to those where the crops will receive the optimum amount of water. In such fields of the Nonchernozem Belt, the main cultivating method is plowing with rolling down and harrowing, with the exception of plots where sowing is done after harvesting potatoes, where it is sufficient to cultivate by harrowing and rolling down. Large harvests can be produced there only if fertilizers, mainly nitrogen-containing, are used. The norm of nitrogen for peas and oats or vetch and oats mixtures is 40-50 kg/ha, and for Cruciferae 60-80.

Since there is a shorter vegetation period to form the harvest, the norm for sowing annual leguminous crops and mixtures thereof is increased by 10-15%. Annual rye grass, Chinese radishes and white mustard are planted at the rate of 25-30 kg seeds, winter and summer rape 10-15 kg and turnips 4 kg/ha.

In West and East Siberia, it is necessary to pay attention to summer sowing of summer rape and Chinese radishes. Most precipitation occurs there in July and August, and these crops make effective use thereof to form a large harvest. Already in late September and early October, they reach the stage of harvestable ripeness, and in areas with little snow cover they can be used as winter pasturage for cattle, mainly sheep.

For the conditions prevailing this year, post-mowing and post-harvest sowing should not only be an important source of increasing gross feed production, but an additional reserve of protein--when planted in the summer, the plants contain considerably more protein than those planted at the usual time, in the spring. The dry substance of even grain crops contain 15-17% protein instead of 11-12. Moreover, plants contain 1.5 times more of the main essential amino acids, 15-20% more carotene and 24-25% more vitamin C. It should also be borne in mind that the fodder mass of crops planted in the summer has a higher moisture content, and for this reason straw can and must be added when preparing silage.

It is also necessary to expand the land used for interval sowing in the nation as a whole to 4.5-4.7 million hectares. Implementation of this task has already begun in many southern regions, in particular, northern Caucasus and the Ukraine. At the same time, the importance of such sowing is still underestimated at farms in Turkmenia and Kirgizia, in Azerbaijan and Georgia. No post-mowing and post-harvest sowing of feed crops has been undertaken at all in Kazakhstan and Armenia. This situation must be corrected before it is too late.

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